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In the field of heavy-duty electric machine building, the most important achievement is the production of hydrogenerators for Dneproges rated at 103,500 kilovolt-amperes, 13.8 kilovolts, 83.3 rpm. Although they yield to the unique hydrogenerators of the Upper Volga hydroelectric power stations in size, weight, and flywheel moment, they are among the most powerful in the world for power and torque. Experience in simultaneous operation at Dneproges of hydrogenerators of the "Elektrosila" Plant imeni S. M. Kirov and American hydrogenerators built by General Electric shows the advantages of Soviet machines.

Continuing work on turbogenerators for 3,000 rpm with hydrogen cooling, the "Elektrosila" Plant produced a 50,000 kilowatt turbogenerator. This completed the series of high-power, high-speed turbogenerators with hydrogen cooling (100,000, 50,000, and 25,000 kilowatts).

The 110-kilovolt, three-phase, three-winding, 60,000-kilovolt-ampere transformers produced by the Moscow Transformer Plant imeni V. V. Kuybyshev are worthy of note. Soviet transformers are characterized by high operational reliability.

High-voltage apparatus is extremely important for electrification. A series of new high-voltage equipment has been designed by the "Elektroapparat" Plant. In this series are a 110-kilovolt air breaker with 2,500,000-kilovolt-ampere interrupting capacity, a small oil breaker, a new 6- to 10-kilovolt disconnecting switch, a new series of disconnecting switches embracing all voltage classes, and an explosion-proof unit for a 6-kilovolt mine distribution installation. The "Uralslektroapparat" Plant has produced a new high-speed oil breaker, newly designed drives, and a new series of instrument transformers.

The introduction of production models of a new series of valve-type arresters for 3-220 kilovolts, made of the "Vilit" material developed by VEI (All-Union Electrical Engineering Institute imeni V. I. Lenin), is also very important.

It should be pointed out that the majority of new-type equipment for high voltages is being created through the teamwork of plants and the VEI. This is a striking example of the fruitful cooperation of scientific and production activities.

Very substantial progress was made in electric welding technology. This is especially important because the range of electric welding equipment in many cases determines the technology used in various branches of industry and construction.

Among new models of electric welding equipment, first place must undoubtedly go to the flange automatic machine designed by the "Elektrik" Plant for automatic and semiautomatic high-speed welding under a layer of flux. Construction features and the use of new technological welding conditions give this automatic machine a number of advantages over existing types and allow replacement of manual welding by automatic or semiautomatic welding in places difficult to reach. Current supply to the welding electrodes of these automatic machines is carried by a cable of original design produced by the "Ukrkabel" Plant.

Another important achievement is the production of new types of machines by the "Elektrik" Plant for contact welding of heat-resisting stainless steels, aluminum alloys, and low-carbon steels, and the universal series of machines for spot welding these same metals using interrupters of a special type.

The successes achieved by the cable industry are of vital importance to the national economy. This industry is producing wire and cables of the most

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varied designs in large and ever-increasing quantity. Among the numerous types of new products are hollow conductors for transmission lines, gas-filled power cables, winding and installation wire and new types of insulation, new types of enamel wire, communication cables, and many others.

Many successes can also be noted in precision electrical instrument building. Accurate electric measuring instruments are needed by many branches of science and technology. Before the war, electric measuring instrument construction lagged. A decisive change took place during the postwar Five-Year Plan, and at present electric instrument building plants are producing the most varied measuring instruments with a high degree of accuracy.

Mass production is a distinguishing feature of Soviet precision electric instrument building. At two plants, production of instruments has been changed over to the "flow" method, which has allowed a considerable increase in output and lowered costs.

A young branch of the electrical industry -- condenser building -- has also achieved successes. Heavy-current condensers are being used more widely in various branches of modern electrotechnology. Personnel of the Condenser Plant of the Ministry of the Electrical Industry have designed many series of condensers for various purposes.

The workers of the Soviet electrical industry have the right to be proud of their achievements. However, it would be a great mistake to consider that all the tasks confronting the electrical industry have been solved. There are more numerous and more complex tasks ahead. In particular, it is necessary to achieve an immediate advance in the field of low-voltage electrical equipment building. The nomenclature of the apparatus produced is insufficient, and the designs of some of them are obsolete. An undoubted achievement is the creation of a new series of universal DC contactors. Now, it is necessary to produce a new series of AC contactors, a series of magnetic starters, control relays, knife switches, and others. The lag in low-voltage equipment building is especially intolerable because low-voltage apparatus is the foundation of every industrial electric drive.

The electric insulation industry must be raised to a higher level since it determines to a considerable extent the technical level of electric machine building, as well as equipment and instrument building.

Special attention should be paid to improving further the quality of production. Parts bearing the mark of plants of the electrical industry should be beyond reproach in every respect.

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